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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,631	03/01/2002	Stephan Jaeger	022101-001500US	3750

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EXAMINER	
WILDER, CYNTHIA B	

ART UNIT	PAPER NUMBER
1637	

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,631	JAEGER, STEPHAN	
	Examiner	Art Unit	
	Cynthia B. Wilder, Ph.D.	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *50-63* is/are allowed.

6)☒ Claim(s) *34-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment filed February 24, 2006 is acknowledged and has been entered. Claims 1-33 have been canceled. Claims 34-63 are pending. All of the arguments have been thoroughly reviewed and considered but are not found persuasive for the reasons discussed below. Any rejection not reiterated in this action has been withdrawn as being obviated by the amendment of the claims.

This action is made FINAL.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Previous Rejection

3. The prior art rejections under 35 USC 103(a) are maintained and discussed below.

Issue: **Claims 34-41 are rejected under 35 USC § 103(a) as being unpatentable over Gagnor et al in view of Locatelli:**

Applicant's traversal

4. Applicant traverses the rejection on the following grounds: Applicant summarizes the Examiner's rejections and states that the Examiner has not set forth a motivation for why those of ordinary skill in the art would be motivated to combine the cited references. Applicant asserts that the Examiner is wrong in suggesting that the oligonucleotides ps-Beta-I and ps-alpha-II in Gagnor are equivalent to the target and control nucleic acids as presently claimed. Applicant asserts that the claims require that the target and control nucleic acids have at least 8 contiguous nucleotides that are essentially parallel complementary. Applicant states that oligonucleotides ps-beta-I and ps-alpha-II do not have contiguous nucleotides that are essentially parallel

complementary and therefore the rejection incorrectly characterizes the cited art. Secondly, Applicant asserts that Gagnor does not describe RT-PCR. Applicant states that instead the reference describes reverse transcription/RNAse H assays to assess binding competition of alpha and beta nucleic acid oligonucleotides. Applicant states that the Examiner relies on Gagnor teaching of RT-PCR for the obviousness rejection. Applicant states that there is no evidence in the cited art that a polymerase could extend the short alpha oligonucleotides described in Gagnor. Applicant states that the Examiner states that Gagnor teaches extension of oligonucleotide with a polymerase by teaching RT-PCR. Applicant states that Gagnor does not in fact describe RT-PCR or that any polymerase would add nucleotides to the ends of the oligonucleotides described in Gagnor. Applicant states that there is not even evidence that it would work, why would one of ordinary skill make the combination? Applicant asserts that there is no teaching or suggestion to use the oligonucleotides in Gagnor for amplification. Applicant states that the Examiner argues that because the claims are directed to a composition and not a method, that the "for amplification" language in the claims is not a limitation because it is a "use". Applicant disagrees on this point as not any primers are encompassed by the claims. Applicant states that only those that would allow for amplification of the target or control nucleic acid under amplification conditions are encompassed by the claims. Applicant states that more importantly, the art must provide some reasons for combining the reference as the Examiner suggests to perform the claimed invention. Applicant states that as the claims include different primers, and primers are typically used in amplification, the Examiner must provide a reasonable explanation for why those of ordinary skill in the art would perform an amplification reaction or alternatively some other reasons to combine the claimed components, including primers in a

composition. Applicant states that the Examiner has not done so. Applicant summarizes the teaching of Gagnor at pages 5108 and 5110. Applicant states that if the teaching described by Gagnor were applied according to the present invention, the result would be that parallel complementary sequences hybridize. Applicant teaches just the opposite and therefore attempts to use Gagnor's alpha oligonucleotides in the present invention results in the opposite desired results, i.e., cross-hybridization of target and control. Applicant states that Locatelli teaches the use of a target and control nucleic acid wherein the target and control do not hybridize to each other, which is just the opposite of what Gagnor teaches. Applicant asserts that the combination of references does not make sense. Applicant respectfully request withdrawal of the rejection.

Examiner's Response

5. All of the arguments have been thoroughly reviewed and considered but they are not found persuasive for the reasons that follows: In regards to Applicant's arguments that the Examiner suggests in the prior Office Action that the oligonucleotides ps beta-I and ps-alpha II in Gagnor are equivalent to the target and control nucleic acids, it is noted that Applicant has misinterpreted the rejection. The Office action at page 3 suggest that ps beta-I and ps-alpha II are both examples of a control nucleic acid as depicted in Figure I. As shown in Figure I at page 5108, ps-beta I oligonucleotide is a control nucleic acid to the target nucleic acid depicted as site I of the IL6 mRNA. The ps-alpha II oligonucleotide is a control nucleic acid to the target nucleic acid depicted at site II of the IL6 mRNA. In response to Applicant's arguments that Gagnor ps-beta-I and ps-alpha II oligonucleotides do not have 8 contiguous nucleotides that are essentially parallel complementary, Applicant's attention is directed to Figure 1, page 5108

which depicts over 8 nucleotides of the oligonucleotides being complementary parallel to their targets. In response to Applicant's arguments that the reference does not describe RT-PCR or that a polymerase would added nucleotides to the ends of the oligonucleotides describe in Gagnor, the Examiner agrees that the reference does not expressly state that RT-PCR was performed. However, the reference of Gagnor does teach the use of the primer(s) in a reverse transcription assay as performed in reference 18 {page 5109}(see Melton et al., Nucleic acids Research, vol. 12, number 18, pages 7035-7056, 1984) which is carried out in the presence of an RNA polymerase to synthesize RNA copies. Gagnor also teaches the use of the primers in hybridization reactions. In response to Applicant's arguments concerning the use of the oligonucleotides of Gagnor et al in an amplification reaction, it is noted that Applicant's claims are not drawn to "a method" but to "a product". The limitation "for amplification" as recited in the claims is "an intended use" of the primers. MPEP states that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)). The claims as written only require a target and a control nucleic acid that comprises at least one contiguous sequence of at least 8 nucleotides in length essentially parallel complementary to said target nucleic acid region or the complementary strand of said target nucleic acid region and primers of the target and primers of said control. As stated earlier the limitation "for the amplification of the target" and "for the amplification of the control.." is an intended use limitation of the sets of primers and thus it not required for the primers to function. Likewise,

the reference of Gagnor was not cited for any teaching of an amplification reaction because this intent is not required in the claims as written. Gagnor et al is cited for its teaching of a control oligonucleotide and target nucleic acid that comprises at least 8 contiguous nucleotides that are parallel complementary. The secondary reference of Locatelli is cited for its teaching of a control nucleic acid and target that are complementary parallel and motivation for the use of the target and control oligonucleotides is taught in the patent as well. Locatelli teaches that the control and target oligonucleotides can be used in amplification reactions for quantitative detection of nucleic acids.

In response to Applicant's arguments that the teaching of Gagnor is not equivalent to the teaching of the present invention because in the present invention parallel complementary sequences do not hybridize, it is noted that the claims as currently written are not limited in the manner Applicant argues. There is no required limitation or suggestion in the claims that the target and control nucleic acid as described in the composition do not hybridize. MPEP states although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). In this case, as stated earlier the primer reference of Gagnor teaches a composition comprising a target nucleic acid and control nucleic acid, wherein said control nucleic acid is at least one contiguous sequence of at least 8 nucleotides in length essentially parallel complementary to said target nucleic acid region. The reference does not teach primers in the composition along with the target nucleic acid and control nucleic acid. The secondary reference of Locatelli teaches a target nucleic acid, control nucleic acid and primers. Locatelli provides motivation for combining primers with the target and control nucleic acid in the teaching that this composition can be combined in an amplification reaction for the quantitative detection of nucleic acids.

In response to Applicant's arguments concerning cross-hybridization of the target and control nucleic acid of Gagnor, Applicant is again reminded that the claims are not drawn to a method but rather a product with intended use limitations. No amplification or PCR is required but rather is an intended use of the composition. Likewise, the claims do not exclude any cross-hybridization. According, the Examiner maintains that Gagnor is valid.

Issue: Claims 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gagnor et al in view of Locatelli as previously applied above and further in view of Ahern, H. (The Scientist, vol. 9, No. 15, pages 20-24, July 1995).

Applicant's traversal and Examiner's Response

6. Applicant traverses the rejection for the same reasons discussed previously above at # 5. Applicant maintains that the combination of Gagnor and Locatelli does not teach the invention as

claimed. Applicant states that the additional references do not correct this deficiency. The examiner maintains that the teaching of Gagnor and Locatelli meets the limitations of the claims as written for the reasons discussed above at # 6. The additional teachings of Ahern provide the limitations not recited in Gagnor and Locatelli references. Accordingly, the rejections are maintained.

Conclusion

7. Claims 50-63 are free of the prior art because no prior art was found teaching or suggesting a composition comprising a target and control nucleic acids, primers for both the target and control, and a control probe and a target probe which detects amplified products and further wherein the control probe is more than 80% parallel complementary to the target probe or the nucleotides complementary to the target probe. The closest prior art; Weller et al (Applied and Environmental Microbiology, July 2000, vol. 66, no. 7, pages 2853-2858) teach a composition comprising a target nucleic acid and a control nucleic acid and primers for amplification of said control nucleic acid, a control probe and a target probe, wherein said control probe detects amplified control nucleic acid and the target probe detects amplified target nucleic acid. Weller set al differs from the instant invention in that they do not teach wherein the control probe is more than 80% parallel complementary to the at least 8 nucleotide of the target probe or at least 8 nucleotides complementary to the target probe. No directionality as defined by Applicant in the use of the term "parallel complementary" is given in the prior art for the composition as described therein. Tchurikov et al (Federation of European Biochemical societies, vol. 297, Number 3, pages 233-236, February 1992) teach hybridization experiments using parallel complementary DNA probes. The reference differs from the instant invention in

that it does not teach the use of the probes in quantitative and/or real-time PCR assays. No motivation could be found in the prior art for combining the probes with a quantitative PCR assay. Accordingly, an obviousness rejection against the claims could not be made.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia B. Wilder, Ph.D. whose telephone number is (571) 272-0791. The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be emailed to cynthia.wilder@uspto.gov. Since email communications may not be secure, it is suggested that information in such request be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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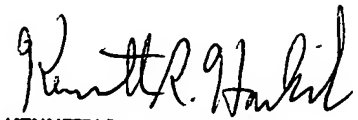

KENNETH R. HORLICK, PH.D
PRIMARY EXAMINER

5/15/06